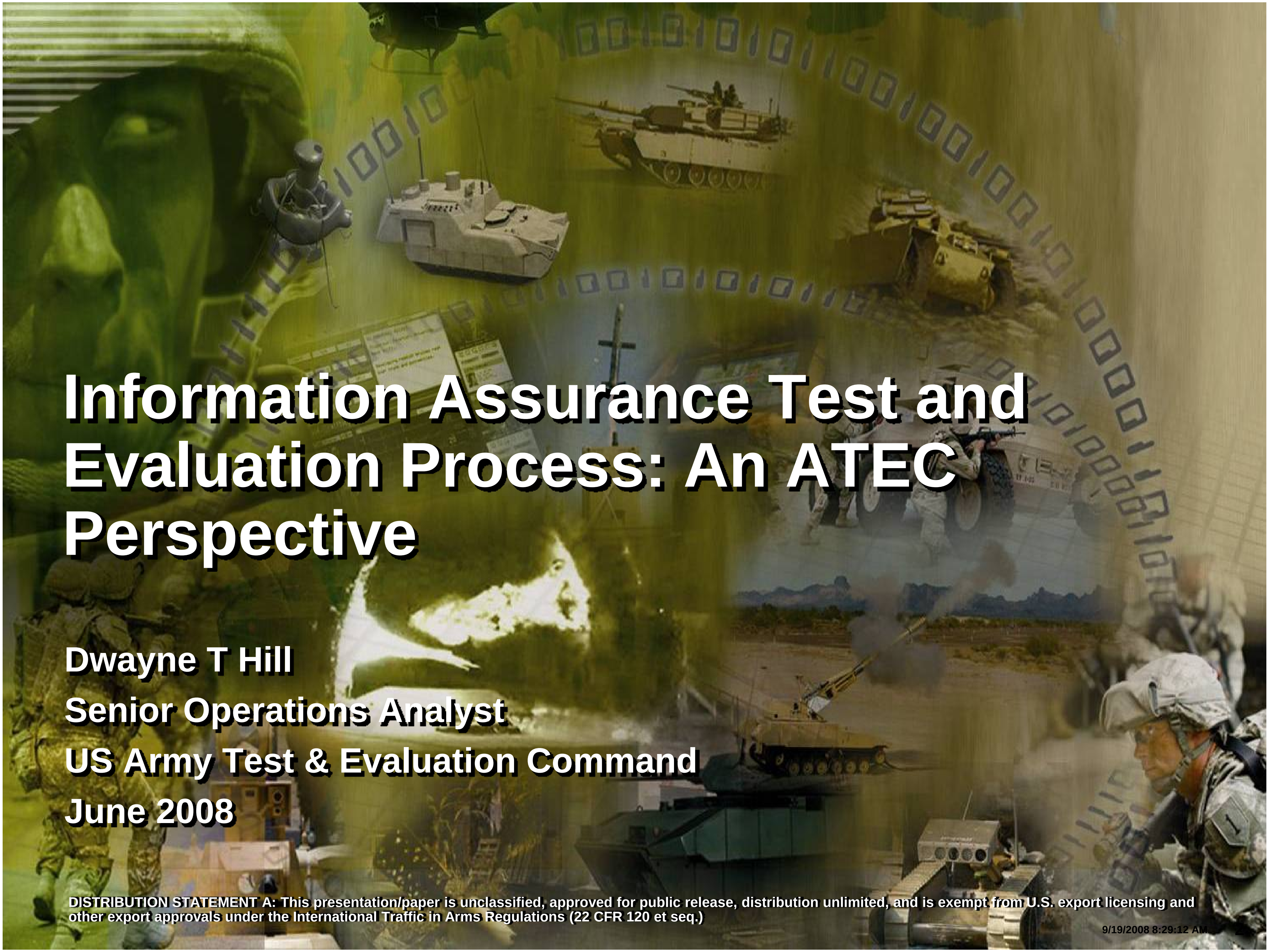

Information Assurance Test and Evaluation Process: An ATEC Perspective

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Agenda

- Purpose
- Information Assurance Policy
- Net-Readiness
- DIACAP – The Army Way
- DOT&E Policy
- Testing for Information Assurance Methodology
- IA Issues

Purpose

- Provide information about the current ATEC methodology for conducting Information Assurance (IA) assessments
- Describe challenges to correctly characterizing system IA capabilities

Information Assurance Policies

Public Law 107-347 – Agencies identify & provide information security protection

DoDD 8500.1 – IA requirements included in all aspects of DoD information systems

DoDI 8500.2 – Provides baseline IA controls for DoD information systems

DoD CIO Memorandum, DIACAP – Requires DoD to certify and accredit information systems

CJCSI 6212.01 – Requires Joint IT and NSS to be IA compliant

AR 25-1 – Establishes the Army IA program for infrastructure, networks and systems

AR 25-2 – Implementation guidance for the Army IA program

DA CIO/G-6 Memorandum – Army implementation of DIACAP

Protect, Detect, React & Restore

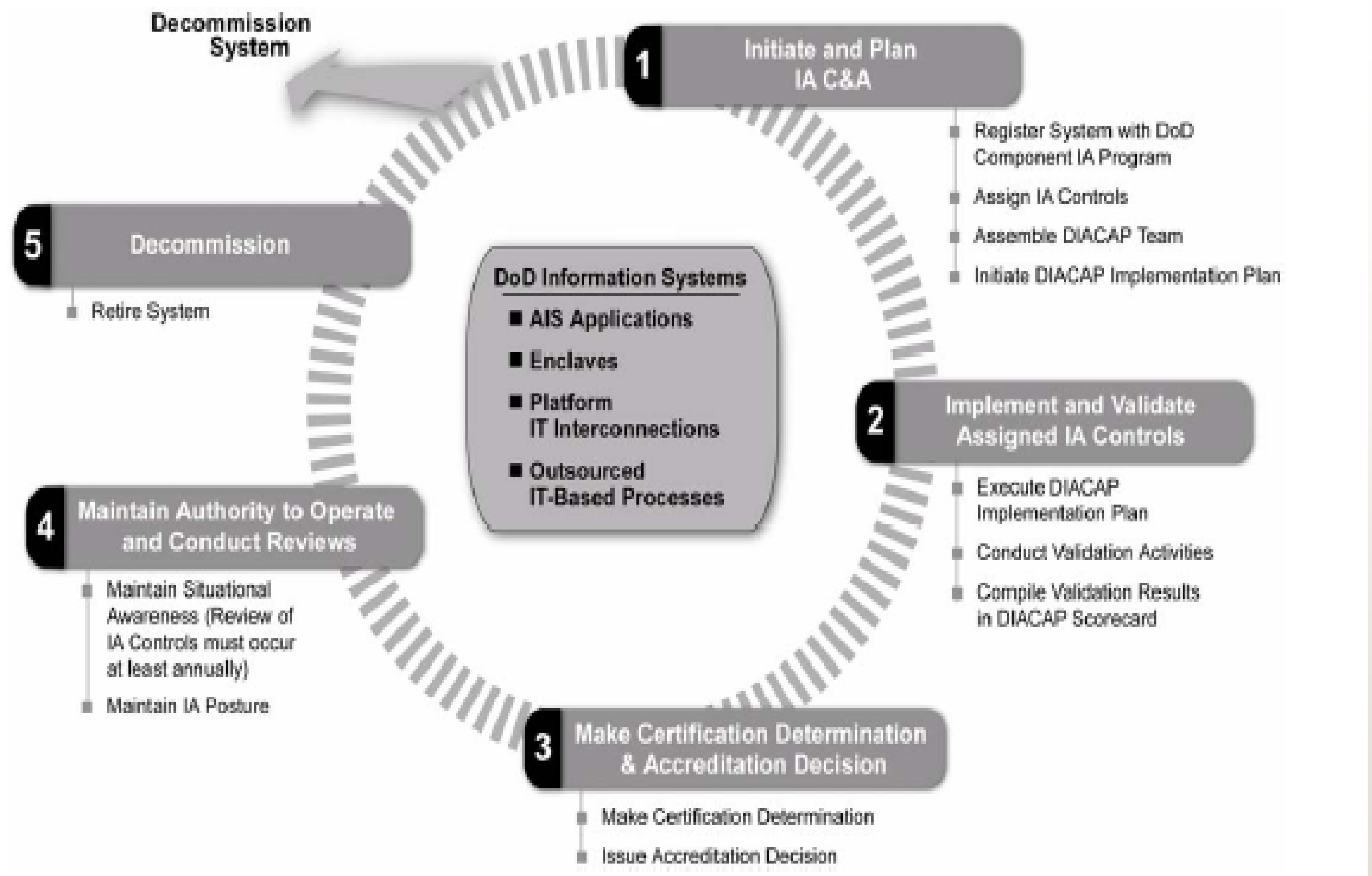
Net-Readiness

- NR-KPP consists of **verifiable performance measures and metrics** used **to assess** … **information assurance**, and net-ready attributes required for both the technical exchange of information and the end-to-end operational effectiveness of that exchange
- Four NR-KPP elements include: compliance with …, and verification of compliance with DOD information assurance requirements
- IA policies and processes **apply to the entire lifecycle** of IT and NSS
- Threshold criteria - Information assurance requirements including **availability, integrity, authentication, confidentiality, and nonrepudiation**, and issuance of an **IATO** by the DAA
- Objective criteria - Information assurance requirements including availability, integrity, authentication, confidentiality, and nonrepudiation, and issuance of an **ATO** by the DAA

DIACAP – Why Transition?

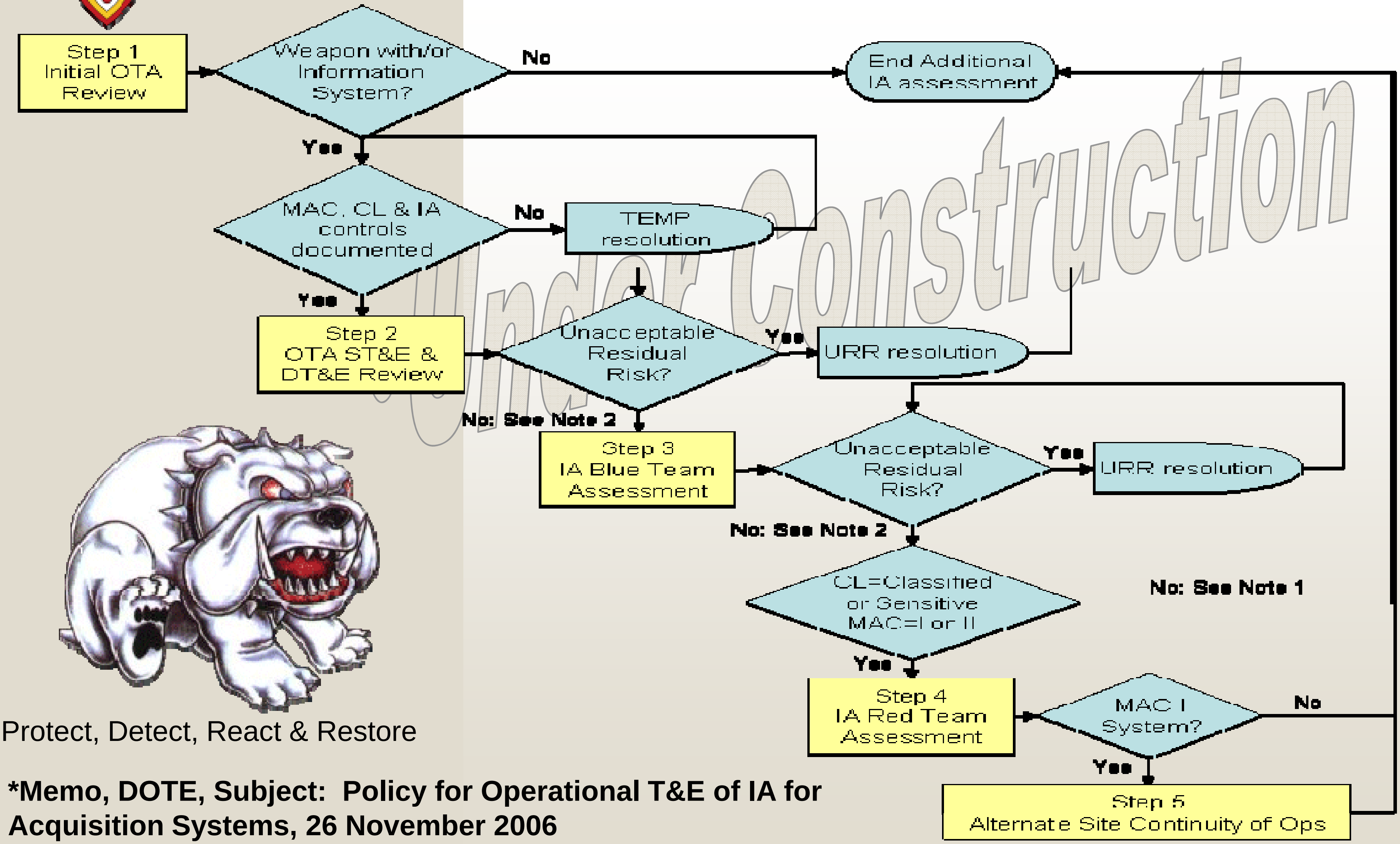
https://diacap.iaportal.navy.mil

- DITSCAP & Army C/A processes written for stand alone or stove pipe systems
- DODI 8500.2 IA controls not considered
- DAA delegated to the lowest level limits "Big Picture" consideration
- Too many CAs limits consistent assessments
- No qualification requirements for ACAs
- IS deployed with no easily identifiable responsible government owner


Decommission System
1 Initiate and Plan IA C&A
Register System with DoD Component IA Program
Assign IA Controls
Assemble DIACAP Team
Initiate DIACAP Implementation Plan
2 Implement and Validate Assigned IA Controls
Execute DIACAP Implementation Plan
Conduct Validation Activities
Compile Validation Results in DIACAP Scorecard
3 Make Certification Determination & Accreditation Decision
Make Certification Determination
Issue Accreditation Decision
4 Maintain Authority to Operate and Conduct Reviews
Maintain Situational Awareness (Review of IA Controls must occur at least annually)
Maintain IA Posture
5 Decommission
Retire System
DoD Information Systems
AIS Applications
Enclaves
Platform IT Interconnections
Outsourced IT-Based Processes

DIACAP does not ensure IA; only shows how well system has implemented baseline controls

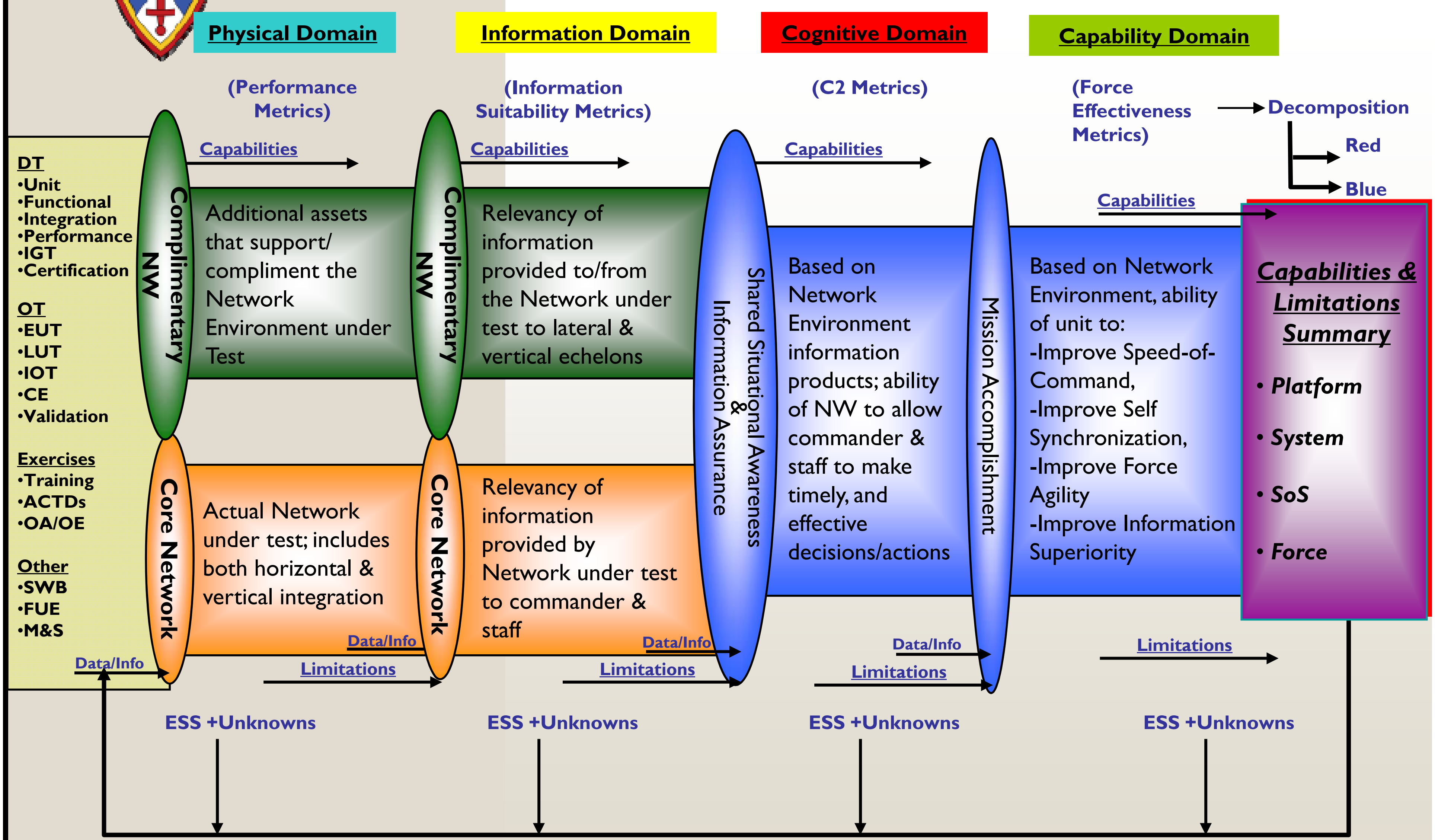
DOT&E Policy



Protect, Detect, React & Restore

***Memo, DOTE, Subject: Policy for Operational T&E of IA for Acquisition Systems, 26 November 2006**

ATEC IA Methodology



Physical Domain

(Performance Metrics)

Information Domain

(Information Suitability Metrics)

Cognitive Domain

(C2 Metrics)

Capability Domain

(Force Effectiveness Metrics)

→ Decomposition

→ Red

→ Blue

DT
- Unit
- Functional
- Integration
- Performance
- IGT
- Certification

OT
- EUT
- LUT
- IOT
- CE
- Validation

Exercises
- Training
- ACTDs
- OA/OE

Other
- SWB
- FUE
- M&S

Complimentary NW

Additional assets that support/ compliment the Network Environment under Test

Complimentary NW

Relevancy of information provided to/from the Network under test to lateral & vertical echelons

Core Network

Actual Network under test; includes both horizontal & vertical integration

Core Network

Relevancy of information provided by Network under test to commander & staff

Shared Situational Awareness & Information Assurance

Based on Network Environment information products; ability of NW to allow commander & staff to make timely, and effective decisions/actions

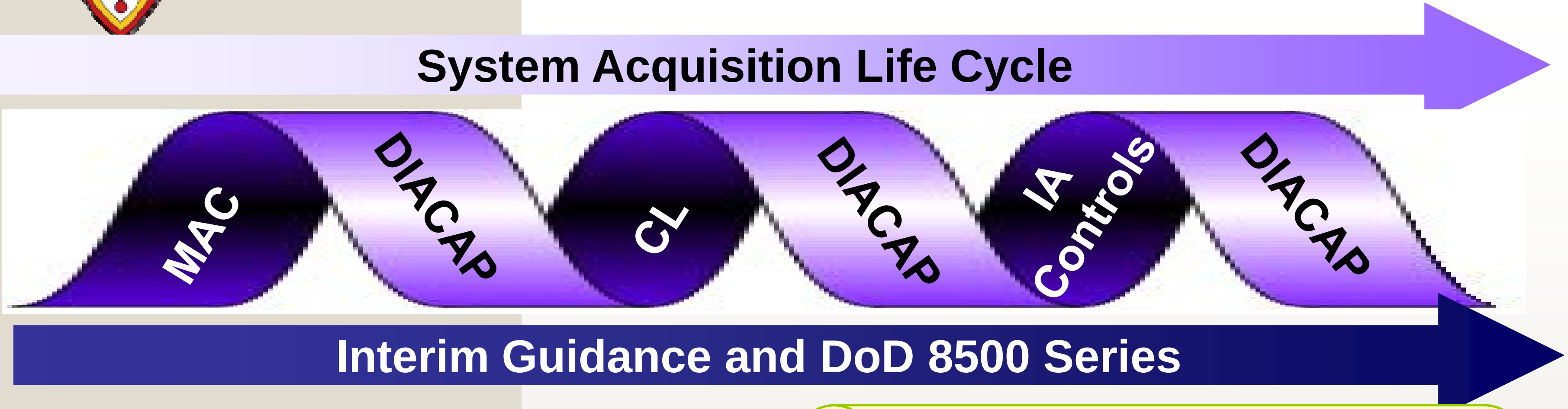
Mission Accomplishment

Based on Network Environment, ability of unit to:
-Improve Speed-of-Command,
-Improve Self Synchronization,
-Improve Force Agility
-Improve Information Superiority

Capabilities & Limitations Summary
- ***Platform***
- ***System***
- ***SoS***
- ***Force***

IGT - Independent Government Test; EUT – Early User Test; LUT – Limited User Test; IOT – Initial Operational Test; CE – Continuous Evaluation; ACTD – Advanced Concept Technology Demonstration; OA/OE – Operational Assessment/Operational Evaluation; SWB – Software Blocking; FUE – First Unit Equipped; M&S – Modeling and Simulation; ESS – Effectiveness, Suitability, Survivability; NW – Network; C2 – Command and Control; FoS – Family of Systems; SoS – System of Systems

ATEC IA Methodology



System Acquisition Life Cycle

Interim Guidance and DoD 8500 Series

ATEC ensures PM documents IA plans and results; ATEC observes PM IA events to understand system C&L, how to test, compliance and readiness for OT

For DIACAP, PM responsible for conducting susceptibility analysis (laboratory/DT) not subject to AR 380-53 - PM will not portray Threat IO

IA OT Entrance Criteria

☑ **MAC and CL documented**

☑ **IA controls implemented**

☑ **DIACAP compliance review**

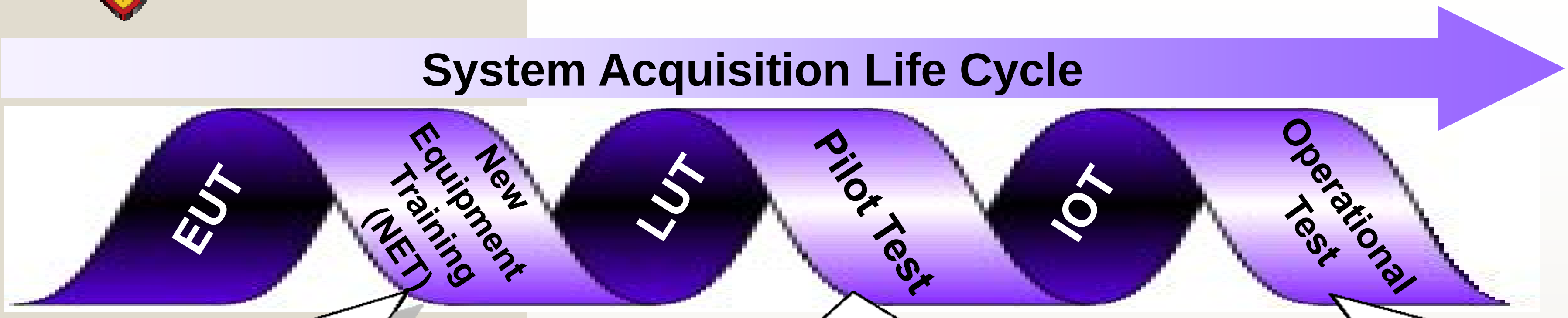
☑ **DAA approved SSAA (DITSCAP) or DIACAP POA&M, DIP**

☑ **ATO/IATO (before OT)**

☑ J-6 I&S Certification

☑ Other CJCSI 6212.01 compliance requirements met. (i.e. E3, HERO, SAASM, etc.)

ATEC IA Methodology



Training Assessment

- Participates in PM training and provides feedback on the quality of the Information Assurance training.

Susceptibility Assessment

- Conducts susceptibility testing

Data Collection

- Analyzes susceptibility data and assists in determining required fixes prior to OT start

Threat IO/Vulnerability Assessment

- Conducts "comm" checks

Susceptibility Assessment

- Continues to conduct susceptibility testing, if needed

Data Collection

- Observes Threat IO/penetration testing impacts on user and collects data

Threat IO (if IOT/FOC event)

- Conducts Threat IO activities (requires Threat commander and validated threat)

Vulnerability (other OT event)

- Conducts penetration testing

Begin planning and coordination early

IA Issues

- Metrics for determining IA capabilities:
  - ❑ Protect - How well does the enterprise, SoS, system defeat attacks / compromises?
  - ❑ Detect - How well does the enterprise, SoS, system detect and alert users of attacks / compromises?
  - ❑ React - How well does the enterprise, SoS, system react to attacks / compromises?
    - ▪ Was the response sufficient?
  - ❑ Restore - How well does the enterprise, SoS, system restore information / systems to per-attack / compromise status?

IA Issues

- Methodology for determining the correct balance between information assurance and interoperability
- Are the current IA baseline controls sufficient?
- Best use of M&S
- What is the best way to T&E an enterprise / federation, system-of-system?

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